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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/528,522

10/11/2005

Kexin Xu

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8284

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EXAMINER

LAMPRECHT, JOEL

ART UNIT

PAPER NUMBER

3737

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/528,522	<b>Applicant(s)</b> XU ET AL.	
	<b>Examiner</b> JOEL M. LAMPRECHT	<b>Art Unit</b> 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

Claims 10 and 11 are objected to because of the following informalities: The use of "e.g." in claims 10 and 11 does not provide information as to whether Applicant is actually claiming those cited elements or merely reciting them for some other edification. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lucassen et al (US 6,609,015 B2) in view of Backhaus et al (US 5,535,743).

Lucassen et al disclose the use of an optical detection method for reflectance measurement of glucose in the bloodstream including use of an 834nm optical laser for infrared detection of blood glucose within the skin with an optical baffle (Col 7 Line 20-Col 8 Line 40). Lucassen et al use orthogonal polarization techniques (Col 4 Line 60—Col 5 Line 35, Col 7 Line 38-Line 55) to gauge the blood glucose of a patient (Figure 1-2, Column 7 Line 39-Col 8 Line 65) including the use of polarized light within the 800-2500 nm spectrum (Col 7 Line 20-35). Finally Lucassen et al disclose the use of separating shallow and deep information for the purpose of allowing for ascertaining only the deep, blood-related information of the glucose level (Col 11 Line 55-Col 12 Line 45). Lucassen et al do not incorporate some of the Brewster, baffle, or space imaging methods, though windowing is used and would imply that that Brewster angle was at least contemplated, but specific disclosure is never discussed.

Attention is then directed to the secondary reference by Backhaus et al which discloses an optical detection method for separating surface and deep information of a medium where a light source irradiates on a measured sample through an incident unit and the light is detected after being processed, where the system can separate or recognize surface and deep information (Col 4 Line 40-Col 5 Line 20, Fig 1). Backhaus et al use a polarization method including a polarizing film, focusing lens, collection lens and positioning to allow for the backscattered light to lose polarization and reach the detector while the surface reflection is eliminated (Fig 1, 4, Col 4 Line 15 – Col 6 Line 14, Col 6 Line 60 – Col 7 Line 65). Backhaus et al additionally disclose the use of a diaphragm for the purpose of allowing through light at specific angles while blocking

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information from other angles along the return path (See Fig 1 Fig 4, and Col 7 Line 15 – 60, Col 4 Line 1-8). Additionally, Backhaus et al disclose the use of an optical stop for the purpose of removal of stray light and assure the collection of the desired light from the reflection within the sample (Col 6 Line 62 – Col 7 Line 15), an optical detection method wherein space imaging is used to detect deep information where the distance between a light incident point and receiving imaging point is capable of being longer than 1mm (Fig 1, 4), using Brewster angle methods within the incident unit and receiving unit including polarizing with a film at a constant angle during a single wavelength measurement and at multiple angles during a multiple-wavelength measurement (Col 6 Line 5-55), using a measuring device which will not be influenced by a surface reflection of the sample while not being in contact with the sample itself (Col 4 Line 1-9), measuring and detecting blood glucose concentrations, measuring NIR and other optical properties across the optical range and a source diode emitting a single or multiple wavelengths (Col 3 Line 30-65, Col 7 Line 15-60), and finally the invention of Backhaus et al is capable of placing a polarizer in a parallel state of an analyzer to allow both surface and deep information to be received rather than removed through the polarization (Col 7 60- Col 8 Line 15, and subtraction information and processing information is contained in the references cited in the background of Backhaus et al). It would have been obvious to modify the disclosure and teachings of Backhaus et al with the invention of Lucassen et al for the purpose of allowing for multiple methods of skin tissue glucose determination, as it is the intent of both systems to acquire the properties of a tissue which lies beneath some semi-aqueous humor.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection. Although the methods of Backhaus et al are disclosed with respect to the eye, the methods of Lucassen et al are both in the same area of endeavor and show that orthogonal polarization techniques are indeed obvious to one of ordinary skill in the art when it comes to measuring glucose levels within the skin.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure includes the Kubis reference which includes the use of polarized

light and Brewster windowing in a skin-glucose testing scenario. This reference was cited on a previous 892, and still finds itself to be pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOEL M. LAMPRECHT whose telephone number is (571)272-3250. The examiner can normally be reached on Monday-Friday 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571)272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eric F Winakur/  
Primary Examiner, Art Unit 3768

JML